

DRAFT
Framework for the
CALFED Bay-Delta Program Comprehensive
Monitoring, Assessment, and Research Plan

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Purpose

CALFED actions to restore ecological health, secure the integrity of Delta islands, and provide good water quality for all beneficial uses are based on scientific determination. There is a need to undertake the following activities in order to enable adaptive management:

- establish the existence and quantify the severity of problems identified in Phase I as affecting the Bay-Delta estuary.
- establish baseline conditions against which the effects of CALFED actions will be assessed.
- evaluate the results of pilot-level implementations of CALFED actions.
- evaluate the progress of full scale implementations of CALFED actions.
- comprehensively assess the overall effectiveness of CALFED actions.
- recommend changes as needed to cause CALFED actions to be most efficient and effective.

These requirements will be met only through implementation of a comprehensive program of monitoring, assessment and research. The following describes the CALFED Bay-Delta Program Comprehensive Monitoring, Assessment, and Research Plan (CMARP) a program that would meet the above requirements.

Principles

CALFED, with the assistance of participating agencies and stakeholders, will develop a robust management structure intended to assure scientific products of value. The following principles will be applied:

- The CMARP will be implemented primarily through the efforts of others. Entities receiving resources from CALFED will be accountable for the quality, quantity, and timeliness of products as a necessary requirement for continued program participation.
- The emphasis of the CMARP is not on data collection, but on data evaluation and use. Evaluative reports, rather than data reports, will be published. Each scientific report published by or for CALFED will have a section evaluating the assessment system and making recommendations for improving the usefulness of the information and achieving greater economy in the assessment activity.

- Only the assessments required in direct support of the CALFED program will be included within CMARP. Conformance of CMARP elements with CALFED objectives will be assessed in a detailed annual report, with a zero-base framework.
- The CMARP will be fully coordinated with similar assessment activities of other local, regional, state, and federal agencies, particularly the Interagency Ecological Program and implementation of the Central Valley Project Improvement Act. To the maximum possible extent, duplication of effort will be avoided.
- The CMARP will be directed to encouraging standardization of sampling equipment, analytical methodology, reporting limits, quality assurance/quality control, and electronic data formats to enable sharing of data among agencies.

Organization

Implementation of the CMARP will be under the overall direction of a program manager who is a CALFED staff member. Though the program manager will have final decision making authority concerning the content of the program, much of the technical work will be performed through volunteer panels of experts representing the various specialties connected with the CALFED program. It will be the program manager's responsibility to maintain the program budget, to maintain fiscal control over the program, and to assure the accountability of all program participants.

The CMARP will be implemented through others, under the overall direction and control of the program manager. CALFED agencies will be called upon to implement portions of the program. Other entities, such as the San Francisco Estuary Project, and local agencies, may also be provided with the opportunity to participate in program implementation. Private citizen volunteers and citizen groups may also participate.

Binding these efforts together will be a comprehensive quality assurance/quality control program that defines the data quality that must be attained for participation in CMARP to be possible.

Annual Monitoring, Evaluation and Research Plan

Each year, the program manager will publish a plan for the monitoring, evaluation and research to be conducted in the coming year. Formulation of this plan will be undertaken with the assistance of CALFED agency staff, under the overall direction of the program manager. This plan, when approved by CALFED management, will guide the conduct of the CMARP, and will serve as the basis for Requests For Proposals that will be prepared to implement the provisions of the plan.

Monitoring and Evaluation Plan

All CALFED activities to correct the problems of the Bay-Delta estuary are subject to assessment through CMARP. Any proposal for performance of CALFED actions will be routed to the CMARP program manager for review. The CMARP manager will work with the project

proponent to devise a specific plan to establish baseline conditions connected with the planned project, to evaluate the progress of the project, and to evaluate the project's success. The monitoring and evaluation plan will include a quality assurance/quality control project plan that establishes data quality objectives and a plan for attaining these objectives. When approved by the CMARP program manager, the monitoring and evaluation plan will become a required part of all project proposals.

Levees and Channels Component

The types of monitoring, assessment and research activities that will be required for the levee and channels actions include, but are not limited to:

- seismic stability studies
- engineering evaluations of levee construction materials
- experiments to control and reverse island subsidence

Ecosystem Restoration Component

The types of monitoring, assessment and research activities that will be required for the ecosystem restoration actions include, but are not limited to:

- identification of rare and endangered species
- assessments of the recovery of habitats and species dependent on habitats
- research into critical life stages and population dynamics of species within the CALFED Solution Area.
- identification and effects of exotic species introductions to the Delta estuary
- growth and reproduction abnormalities in Delta species, and their causes

Water Quality Component

The types of monitoring, assessment and research activities that will be required for water quality actions include, but are not limited to:

- comprehensive water quality monitoring and assessment to assess water quality conditions and evaluate effects of CALFED actions
- research into treating agricultural drainage
- investigation of potential measures to prevent or reduce harmful agents in storm water runoff.
- research into means of controlling and reducing acid mine drainage
- research into means of reducing harmful materials in agricultural drainage.
- evaluating toxicity and its sources in the Delta and its tributaries.
- assessment of soils and sediments for the presence of salts and toxicants associated with Levee and Channels actions.

Water Use Efficiency Component

The types of monitoring, assessment and research activities that will be required for water use efficiency actions include, but are not limited to:

- research into real time monitoring of agricultural irrigation practices and other potential means of increasing agricultural use efficiency.
- research into means of improving urban water use efficiency

Storage and Conveyance Component

The types of monitoring, assessment and research activities that will be required for storage and conveyance options include, but are not limited to:

- development of mathematical modeling tools

Implementation of the CMARP

The CMARP will be implemented beginning with approval of Category III projects for which funding is currently available, and extending through Phase III, the Implementation Phase of the CALFED Program.